Technical Support Services for the Office of Naval Research Littoral Warfare Advanced Development Project

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LONG-TERM GOALS

The long-term goal of Littoral Warfare Advanced Development (LWAD) project is to fill the requirement for at-sea testing of Littoral ASW (LASW) technology developments by providing the science, test planning, and logistical efforts to enable cost effective LASW sea testing and demonstration. LWAD is a key cornerstone of the LASW FNC management providing an at-sea demonstration vehicle that facilitates the performance-driven development, testing, and at-sea demonstrations of the LASW FNC products.

OJECTIVES

The LWAD project robustly tests and demonstrates LASW FNC technologies to facilitate transition to acquisition programs, leveraging (where possible) other S&T and R&D LASW-related projects. The LWAD team coordinates and integrates multiple technologies test requirements into combined sea tests conducted in littoral environments, saving scarce funds and facilitating the transition of proven S&T concepts to acquisition programs. Specific objectives of this task include:

- Test Plan inputs--R&D and Fleet asset requirements, EVA model and data requirements, POCs for coordination with the LWAD teams, and a funded data processing and analysis plan.

- Environmental compliance documentation (when required) or funding to LWAD for preparation, review, submittal and approval acquisition of such documentation.

- Data processing and analysis--funding for data archiving, processing, and analysis.

- Test participation--dockside equipment installation, removal; platform riders as required.

- Post-test analysis and documentation.

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
30 SEP 2005		**00-00-2005 to 00-00-2005**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Technical Support Services for the Office of Naval Research Littoral Warfare Advanced Development Project	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Marine Acoustics, Inc., Suite 730,4100 Fairfax Drive,Arlington,VA,22203**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES
code 1 only

14. ABSTRACT
The long-term goal of Littoral Warfare Advanced Development (LWAD) project is to fill the requirement for at-sea testing of Littoral ASW (LASW) technology developments by providing the science, test planning, and logistical efforts to enable cost effective LASW sea testing and demonstration. LWAD is a key cornerstone of the LASW FNC management providing an at-sea demonstration vehicle that facilitates the performance-driven development, testing, and at-sea demonstrations of the LASW FNC products.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**4**	

APPROACH

For each LWAD sea test, MAI personnel operating under this task:

- Identification of at-sea testing requirements of LASW FNC technologies and other S&T/R&D LASW-related projects that can leverage FNC technology at-sea testing

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- Formulating coordinated test plans for the identified technologies to meet projects' objectives, including a coordinated track plan, project data-collection plan, in-situ environmental data collection, at-sea modeling support plan, communications plan and sea test reconstruction data plan.

- Securing sea test platforms including research vessels, UNOLS, NAVOCEANO, Navy or commercial ships, target support--submarines (SSN/SS), mine shapes, etc., and equipment to execute a formulated plan and requesting water and air space for use in at-sea tests.

- Ensuring environmental compliance procedures are followed for all sea tests. Preparing and distributing (Overseas) Environmental Assessments and preparing an Environmental Conservation Report at the conclusion of all LWAD sea tests.

- Directing the execution of the formulated sea test plan and providing the at-sea management of the plan execution to ensure that safety procedures have been properly briefed and are followed.

- Coordinating selection of staging, mobilization, and demobilization ports. Identifying and scheduling infrastructure support for mobilization and demobilization. Providing a full mobilization and demobilization plan including equipment lists, deck layouts, etc., to support all sea tests. Providing a mobilization coordinator for each sea test.

- Ensuring proper resource (sonobouys, XBT's, shipboard equipment, marine mammal mitigation equipment, etc.) management.

- Providing a Test Director and Unit Coordinators who are responsible for the safe and efficient conduct of all sea tests and who ensure the proper setup, maintenance, and collection of all pertinent logs.

WORK COMPLETED

LASW FNC's demonstration vehicle, the Littoral Warfare Advanced Development initiative, LWAD, had a successful year supporting performance demonstrations for several of the FNC projects with participation from the Fleet in operational areas of interest.

RESULTS

The LWAD team successfully planned and completed LWAD 05-1. This joint LWAD/Task Force ASW exercise was held off Japan in April 2005. Technologies participating in the experiment included ONR's Littoral Active Multistatics Program (LAMP) Compact Deployable Multistatic Receiver (CDMR) and NAVAIR's Coherent Source Program. The demonstration included six commercial charter research vessels, (four acting as acoustic source ships and two as CDMR support vessels), U.S

and Japanese submarine and surface combatants, and multiple maritime patrol aircraft and helicopters. Over 900 hours of data was collected between all participants.

After returning from that experiment the LWAD team began planning for LWAD 05-2, a Passive Barrier Demonstration for the Deployable Autonomous Detections System (DADS), to be held off Perth, Australia in 1Q FY-06. LWAD 05-2 will employ multiple DADS nodes, one commercially chartered research vessels, one target, and maritime patrol aircraft. Additional technologies participating in the experiment include prototype data exfiltration methodologies (Data Bubbles), and two Australian DSTO arrays. This will be a joint US and Australian exercise.

IMPACT/APPLICATIONS

The LWAD initiative highlights the technology build-test-build approach leading to performance demonstrations in forward operations areas with Fleet assets and participation.

TRANSITIONS

LWAD is a test and demonstration project and as such facilitates the transition of technologies participating in LWAD sea-tests such as CDMR and DADS.

RELATED PROJECTS

Numerous ASW FNC projects including DADS and LAMP interact with the LWAD program.

PUBLICATIONS

Not Applicable